

AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Currently Amended) A transgenic plant cell comprising an Oxidoreductase Stress-Related Protein (ORSRP) coding nucleic acid, wherein the nucleic acid comprises a nucleotide sequence encoding a protein having an amino acid sequence with at least 95% identity with the sequence as set forth in SEQ ID NO: 4, wherein expression of said nucleic acid in the plant cell results in increased tolerance to an environmental stress associated with salinity, drought, and/or low temperature as compared to a non-transgenic wild type plant cell of the same species, and wherein the ORSRP is a heat-stable glutaredoxin or thioredoxin protein.
- 2-4. (Canceled)
5. (Previously Presented) The transgenic plant cell of claim 1, wherein the ORSRP coding nucleic acid encodes a protein with the sequence as set forth in SEQ ID NO: 4.
- 6-7. (Canceled)
8. (Currently Amended) The transgenic plant cell of claim 1 wherein the plant cell is ~~derived~~ from a monocotyledonous plant.
9. (Currently Amended) The transgenic plant cell of claim 1 wherein the plant cell is ~~derived~~ from a dicotyledonous plant.
10. (Currently Amended) The transgenic plant cell of claim 1, wherein the plant cell is ~~derived~~ from a plant selected from the group consisting of maize, wheat, rye, oat, triticale, rice, barley, soybean, peanut, cotton, rapeseed, canola, manihot, pepper, sunflower, borage, safflower, linseed, primrose, rapeseed, turnip rape, tagetes, solanaceous plants, potato, tobacco, eggplant, tomato, Vicia species, pea, alfalfa, coffee, cacao, tea, Salix species, oil palm, coconut, perennial grass, forage crops and Arabidopsis thaliana.
11. (Currently Amended) The transgenic plant cell of claim 1 wherein the plant cell is ~~derived~~ from a gymnosperm plant.
12. (Canceled)

13. (Previously Presented) A transgenic plant comprising the plant cell according to claim 1, wherein the transgenic plant is a monocot or dicot plant.

14. (Canceled)

15. (Previously Presented) A transgenic plant comprising the plant cell according to claim 1, wherein the transgenic plant is a gymnosperm plant.

16-17. (Canceled)

18. (Currently Amended) A plant expression cassette comprising an ~~ORSRP~~ Oxidoreductase Stress-Related Protein (ORSRP) coding nucleic acid having a nucleotide sequence operatively linked to a regulatory sequence and/or a targeting sequence for directing the ORSRP coding nucleic acid to an appropriate cell compartment, wherein the nucleotide sequence encodes a protein having an amino acid sequence with at least 95% identity with the sequence as set forth in SEQ ID NO: 4 and having the activity of ~~an ORSRP~~ a glutoredoxin.

19. (Currently Amended) An expression vector comprising an ~~ORSRP~~ Oxidoreductase Stress-Related Protein (ORSRP) encoding nucleic acid having a nucleotide sequence encoding a protein having an amino acid sequence with at least 95% identity with the sequence as set forth in SEQ ID NO: 4, or the plant expression cassette of claim 18, whereby expression of the ORSRP coding nucleic acid in a host cell results in increased tolerance to environmental stress as compared to a wild type host cell.

20-28. (Canceled)

29. (Currently Amended) A method of producing a transgenic plant comprising an ~~ORSRP~~ Oxidoreductase Stress-Related Protein (ORSRP) coding nucleic acid, wherein expression of the nucleic acid in the transgenic plant results in increased tolerance to environmental stress associated with salinity, drought, and/or low temperature as compared to a non-transgenic wild type plant of the same species, comprising

- a) transforming a plant cell with an expression vector comprising the nucleic acid,
- b) generating from the plant cell the transgenic plant with an increased tolerance to environmental stress as compared to a corresponding wild type plant,

wherein the nucleic acid comprises a nucleotide sequence encoding a protein having an amino acid sequence with at least 95% identity with the sequence as set forth in SEQ ID NO: 4, and wherein the ORSRP is a heat-stable glutaredoxin or thioredoxin protein.

30-31. (Canceled)

32. (Previously Presented) The method of claim 29, wherein the ORSRP coding nucleic acid encodes a protein with the sequence as set forth in SEQ ID NO: 4.

33-46. (Canceled)

47. (Currently Amended) A method for preparing a plant cell with increased tolerance to an environmental stress associated with salinity, drought, and/or low temperature comprising transforming the plant cell with an ~~ORSRP~~ Oxidoreductase Stress-Related Protein (ORSRP) coding nucleic acid comprising a nucleotide sequence encoding a protein having an amino acid sequence with at least 95% identity with the sequence as set forth in SEQ ID NO: 4, and expressing the ORSRP coding nucleic acid in the plant cell.

48. (Canceled)

49. (Currently Amended) A method for selection of plants with increased tolerance to an environmental stress associated with salinity, drought, and/or low temperature comprising utilizing a ~~ORSRP~~ Oxidoreductase Stress-Related Protein (ORSRP) coding nucleic acid comprising a nucleotide sequence encoding a protein having an amino acid sequence with at least 95% identity with the sequence as set forth in SEQ ID NO: 4 as a DNA marker, and selecting the plants with increased tolerance to an environmental stress associated with salinity, drought, and/or low temperature.

50. (Canceled)